

REMARKS**Status of case**

Claims 1-2, 5-28, and 33-42 are currently pending.

Claim objections

Claims 12 and 23 were objected to for two informalities: (1) the legend for RSurI was missing; and (2) a typographical error. Applicants amend claims 12 and 23 to overcome the objection.

Rejection under 35 U.S.C. § 102(e)

Claims 3 and 29 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 5,757,927 to Gerzon ("the Gerzon reference"). To advance prosecution and in no way acquiescing to the rejection, Applicants cancel claims 3 and 29.

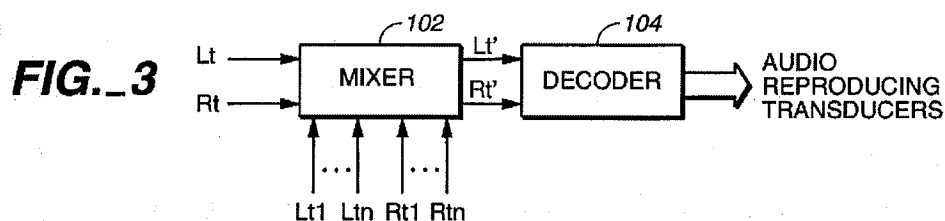
Rejections under 35 U.S.C. § 103(a)

Claims 1, 2, 5, 7, 16, and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,862,228 to Davis ("the Davis reference") in view of Admitted Prior Art ("APA"). Claims 6, 8-15, 17, and 19-28 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Davis reference in view of APA and further in view of U.S. Patent 5,787,480 to Griesinger ("the Griesinger reference"). Claims 30-32 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Davis reference in view of the Griesinger reference.

Claim 1 recites "an input mixer that produces a plurality of input signal pairs using the plurality of audio input signals . . . at least one of the input signal pairs being based on at least one of the audio input signals from a different location". See also claim 2 ("creating a plurality of input signal pairs as a function of the plurality of input signals . . . at least one of the input signal pairs being based on at least one of the audio input signals from a different location"); claim 42 ("an input mixer that produces at least one input signal pair using each of the plurality of audio input signals"). As disclosed in the present application, the sound processing system can manipulate the input signals to create input signal pairs prior to decoding so that the output

signals are a function of a greater number of input signals. See abstract. This “creating [of] input signal pairs as a function of the various input signals . . . enable the combination of input signals included in the output signals to be adjusted without altering the matrix decoding techniques.” Paragraph [0014]. In particular, “the input signal pairs enable the output signals to include a different combination of input signals which, if the output signals were defined solely by the matrix, would not have been included. Therefore, the surround effect is enhanced even in non-optimum listening environments.” Paragraph [0066]; see also paragraphs [0077]-[0078]. For example, as disclosed in the present application, a rear input pair may be created from all of the input signals. “As a result, some sound will emanate from the rear of the listening environment whenever there is an input signal, which enhances the surround effect in the listening environments that lack adequate reverberation.” Paragraph [0066]. As another example, “the input signal pairs may be created so that certain input signals or an amount of certain input signals are blended with adjacent input signals to provide a smoother transition between adjacent channels.” Paragraph [0066].

In contrast to the claims as currently presented, the Davis reference teaches a mixer in combination with a decoder. Figure 3 and the associated text are reproduced below:



In FIG. 3, pre-recorded Lt and Rt matrix encoded audio signals are applied to a linear mixer 102. Other inputs to the mixer include one or more pairs of matrix encoded audio signals Lt1/Rt1 through Ltn/Rtn. In the preferred environment of the invention, each of the latter inputs represents the spatial encoding of a single audio signal. The output of the mixer 102 is a single pair of matrix-encoded audio signals, Lt' and Rt', representing the linear sum of Lt and Lt1 through Ltn and the linear sum of Rt and Rt1 through Rtn, respectively. [Col. 4, lines 34-42]

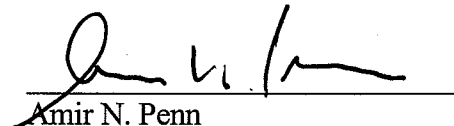
Thus, the Davis reference teaches that the left and right inputs (Lt and Rt) may be modified by a Lt1/Rt1 through Ltn/Rtn to produce Lt' and Rt' as inputs to the decoder 104. The inputs to mixer Lt1/Rt1 through Ltn/Rtn are not signals for other channels (such as rear or surround channels). Rather, the Davis reference teaches that Lt1/Rt1 through Ltn/Rtn are encoded signals of lgain and fgain, which “represent the spatial position of an audio signal relative to four directions.”

Col. 4, lines 58-59. Thus, the Davis reference, unlike the claims as currently presented, does not teach generating any input signal pairs that are based on audio input signals from a different location. For at least this reason, the claims as currently presented are patentable over the cited references. Applicants do not believe it is therefore necessary to address other aspects of the Office Action.

SUMMARY

Applicant respectfully requests the Examiner to grant early allowance of this application. The Examiner is invited to contact the undersigned attorneys for the Applicant via telephone if such communication would expedite this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Amir N. Penn', is written over a horizontal line.

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